

WHAT IS CLAIMED IS:

1. A filter circuit, comprising:

At least one inductor coupled in parallel with at least one capacitor forming a filtering circuit;

5 said filtering circuit directly coupled in parallel with a power source with no intervening electrical components, and tuned to resonate at a frequency equal to a fundamental frequency of said power source, thereby attenuating most other frequencies on said power line and minimizing power dissipation through said filtering circuit.

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2. A filter as claimed in claim 1, where said filtering circuit is a stand-alone device.

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3. A filter as claimed in claim 1, where said filtering circuit is part of a power inlet system.

4. A filter as claimed in claim 1, where said power source is single phase.

5. A filter as claimed in claim 1, where said power source is three-phase.

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6. A circuit for correcting perturbations in a power system signal operating at a system line frequency said circuit comprising:

at least one capacitive element for drawing a capacitive current;
at least one inductive element for drawing an inductive current
substantially equal in amplitude and substantially one hundred eighty degrees
out of phase with said capacitive current;

5 said at least one inductive element connected in parallel with said at least
one capacitive element to form a parallel resonant circuit;

 said parallel resonant circuit is tuned to resonate at said system line
frequency and is connected in parallel directly across a power source with no
intervening electrical components between said power source and said parallel
10 resonant circuit;

 said parallel resonant circuit has circulating currents of substantially the
same amplitude as a load current, wherein said parallel resonant circuit absorbs
voltage perturbations in excess of the amplitude of said power system signal at
all frequencies above and below said system line frequency and wherein said
15 parallel resonant circuit provides energy to restore notches in the amplitude of
said power system signal at all frequencies above and below said system line
frequency.

7. A circuit as claimed in claim 6, where said parallel resonant circuit is a
20 stand-alone device.

8. A circuit as claimed in claim 6, where said parallel resonant circuit is part of a power inlet system.
9. A circuit as claimed in claim 6, where said power system is a single phase unit.
10. A circuit as claimed in claim 6, where said power system is a three-phase unit.
- 10 11. A filtering circuit, comprising:
- a plurality of capacitive elements coupled in parallel;
- at least one inductor connected in parallel to said plurality of capacitive elements to form a filter circuit;
- a reactive impedance of said at least one inductor and a combined reactive impedance of said plurality of capacitive elements set substantially equal in value and one hundred and eighty degrees out of phase and tuned to resonate at a frequency value equal to a fundamental frequency value of a parallel connected power source with no intervening components connected between said power source and said filtering circuit.
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12. A circuit as claimed in claim 11, where said filtering circuit is a stand-alone device.

13. A circuit as claimed in claim 11, where said filtering circuit is part of a power inlet system.

5 14. A circuit as claimed in claim 11, where said power system is a single phase unit.

15. A circuit as claimed in claim 11, where said power system is a three-phase unit.

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